

N89 - 14579

16-45
157646

BREWER SPECTROPHOTOMETER MEASUREMENTS IN THE CANADIAN ARCTIC

J.B. Kerr and W.F.J. Evans
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario, Canada
M3H 5T4

AG 530340

Abstract

In the winters of 1987 and 1988 we have conducted measurements with the Brewer Spectrophotometer at Alert (82.5 N) and Resolute (74.5N). The measurements were conducted as part of our Canadian Program to search for an Arctic Ozone Hole (CANOZE).

Ozone measurements were conducted in the months of December, January and February using the moon as a light source.

The total ozone measurements will be compared with ozonesonde profiles, from ECC sondes, flown once per week from Alert and Resolute.

A modified Brewer Spectrophotometer was used in a special study to search for chlorine dioxide at Alert in March 1987.

Ground based observations at Saskatoon in February and at Alert in March 1987 failed to detect any measureable chlorine dioxide. Interference from another absorbing gas, which we speculate may be nitrous acid, prevented the measurements at the low levels of chlorine dioxide detected in the southern hemisphere by Solomon et al.¹ (1987).

Reference

1. Solomon, S., G.H. Mount, R.W. Sanders and A.L. Schmeltekopf, Visible Spectroscopy at McMurdo Station, Antarctica, 2, Observations of OClO, J. Geophys. Res., 92, 8329-8338 (1987).